ABSTRACT

Cooling means for a heated surface comprising an enclosure for enclosing the heated surface and two oppositely charged interleaved radial arrays of microelectrodes positioned on the surface within the enclosure. The combined arrays have a closely spaced end and a periphery end. A volatile cooling liquid is contained in a reservoir within the enclosure but separate from the array. A slit-type restrictor is positioned between the reservoir and the array to restrict liquid flow from the reservoir toward the array. A portion of the closely spaced end of the array is positioned within the slit whereby the pumping action of the array draws only the amount of volatile liquid along the electrodes needed to form a thin evaporating film over the array area. The vapor from the thin film evaporator flows to a condenser where it is cooled, condensed to a liquid and returned to the liquid reservoir.